ATX-E15
ATX Core2Quad Main Board

User's Manual
Version 1.0

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Introduction

This manual is designed to give you information on the ATX-E15 Single Board Computer card. The topics covered in this manual are as follows:

- ✓ **Features**
- ✓ **Specification**
- ✓ **Jumper setting and Connectors**
- ✓ **BIOS Setup**
- ✓ **Appendix**

Chapter 1
Features & Specifications

Features

- Support Intel® Core 2 Quad, Core 2 Duo, Pentium-D, Pentium 4, Celeron D processor in LGA775 package with FSB 800/1066/1333MHz.

- Four DDR2 1.8V DIMM sockets support up to 8GB system memory in Dual Channel Mode. System memory speed can be DDR2 800 or 667MHz.

- Six SATA ports support up to 6 SATA 3Gbps devices. Support RAID0, RAID 1, RAID 5, and RAID10.

- Dual GbE LAN design maximized the communication bandwidth for both internet and intranet connection. Root Boot and Wake Up on LAN supported.

- Multiple I/O functions: 10 x USB2.0, 4x COM ports, 6x SATA, IRDA, 1x PIDE, 1x CF, 1x LPT.

- High-Definition Audio Codec support Line-out, Line-in and Microphone, CD-IN, SPDIF and surrounding sounds.

- Five standard 32-bits 5V PCI slots for PCI add-on cards.

- One PCI-Express x16 slot for high-end graphics add-on card.

- One PCI-Express x4 slot for high-end Storage RAID Cards or Multiple-ports LAN Cards.

Specifications

- **Processor Support:**
    - Intel® Core 2 Quad, Core 2 Duo, Pentium-D, Pentium 4, Celeron D processor .
    - Support Front Side Bus speed 800MHz, 1066MHz and 1333MHz.
    - LGA775 socket
    - **Major Chipset:**
    - Intel Q35 and ICH9DO chipset.
    - RealTek RTL8111C LAN chip.
    - Winbond 83627HF Super I/O.
    - ALC888 AC97 Audio chip.
    - **System Memory:**
    - Four DDR2 DIMM 240pins Sockets support DDR2 667/800 unregistered non-ECC Memory up to 8.0 GB.
    - Dual channel mode operation supported.
- **Video Controller:**
    - Intel Q35 Integrated GMA3100 Graphic Engine. Support DVMT 4.0 for memory allocation up to 256MB.
    - One 15-Pins D-Sub Female connector on Rear plane for CRT displays.
- **Super I/O:**
    - Winbond 83627HF LPC I/F Super I/O chip.
    - Four Serial ports as COM1~COM4. COM2 is RS232/422/485 selectable by jumpers
    - COM1 is D-Sub 9-pins male on rear panel. Pin9 are powered with either +5V or +12V by jumper.
    - COM2~COM4 are pin-header (2x5 pin-header/ 2.54mm pitch) for internal connections.
    - One Floppy connector supports up to floppy drives.
    - One Parallel port supports SPP/ECP/EPP mode. (25-Pins D-Sub Female on Rear).
    - One IrDA port; (5-pins pin-header with +5V powered).
    - Six USB2.0 ports for internal or front panel connection. (2x5 pin-header/ 2.54mm pitch).
    - Four USB2.0 ports integrated with RJ45 connector on rear panel.
    - One PS2 Keyboard and one PS2 mouse connector on rear

panel.

- **USB Interface**:
  - Ten USB 2.0 ports compliant with USB Specification Rev. 2.0 and support USB Hot-Plug function.
  - Four ports on rear penal with type-A connector for external USB devices.
  - Six ports in two 2x5/2.54mm box header for internal USB devices connection.
  - Support Legacy USB devices and Boot from USB devices like USB-HDD, USB-Floppy and USB-CDROM.
  - All USB ports support USB type keyboard and mouse.
- **SATA and PIDE:**
  - One USB bridged PIDE controller support up to UltraDMA mode 5 or ATA100 speed. It is for 2'nd storage for DVD player, CF cards and Backup HDD.
  - One standard 40-pins Box header to support 3.5" HDD, DVD Player or DOM Flash Disk.
  - One Compact Flash-II socket shared with PIDE Channel. One jumper to select as Master or Slave device.
  - Six SATA ports support up to 6 SATA devices. Support RAID0, RAID 1, RAID 5, and RAID10. SATA RAID BIOS is integrated in System BIOS.
- **Gigabit and 10/100M Ethernet:**
  - Two Realtek RT8111C chips on board for dual GbE LAN support.
  - Support Wake-on-LAN.
  - Remote Boot Agent is supported with PXE or RTL protocol.
- **Audio:**
  - RealTek ALC888 High-Definition Audio chip on-board.
  - Two Audio-Jack on rear panel for Audio Line-out and Microphone.
  - One 14-pins pin-header to provide internal audio device connection or surrounding speaker connection.
  - One CD-IN to support DVD player audio input.
  - One SPDIF interface to support SPDIF digital audio input and output.
- **PCI and PCI-Express Expansion Slot:**
  - Five 5V 32-bits PCI slots for PCI 32-bits 5V/3V Add-on Cards.
  - One PCI-Express x16 slot for high-end graphics add-on card.
  - One PCI-Express x4 slot for high-end Storage RAID Cards or Multiple-ports LAN Cards.
- **Hardware Monitor:**

- 83627HF integrated hardware monitor chip to monitor Voltages, temperatures and FAN speed.
- Temperature Monitor: One sensor close to CPU socket for CPU temperature detection. One sensor close to 83627HF chip for board temperature detection.
- One CPU FAN for CPU cooler, one SYS FAN for chassis FAN, One Power FAN for PSU FAN. All FAN speeds are monitored.

- **Watchdog Timer:**
  - The WatchDog timer can be disable/enable through BIOS setup.
  - The timeout interval 1~255 seconds can be programmed through I/O address 842h/843h. The timeout event will generate the RESET.

- **CMOS**:
  - On-board RTC with 242 bytes of Battery-back CMOS RAM.
  - One 3-pins Jumper to clear CMOS data.

- **BIOS**:
  - Phoenix-Award Standard PnP BIOS 6.2.
  - 8Mbit FlashROM with BootBlock for Fail-safe.
  - Enhanced ACPI and DMI2.0 compliant.
  - BIOS utility for field update.
  - VBIOS and LAN remote Boot Agent integrated.

- **Power Connector:**
  - Support both AT mode and ATX mode operation. Selectable by jumper.
  - One Standard ATX 24-pins power connector for system power
  - One ATX-12V 8-pins connector for CPU power input.

- **Cooling:**
  - One CPU cooling FAN connector nearby CPU socket.
  - Two System cooling FAN connectors on board for Chassis and PSU cooling.

- **Digital Input and Output:**

  - Support 8-bits Digital I/O.
  - Software programmable to configure as 4-IN/4-OUT or 8-IN or 8-OUT.

- **Others:**
  - One Buzzer (9mm) on-board for beep message.

- **Operating Temperature:**
  - 0~60°C Operation Range.
  - -40C to 70C storage.

- Relative Humility: 5~95%, non-condensing.

- **Dimensions:**
    - 9.6"(L) x 12" (W); or 244mm (L) x 305mm (W).
    - Standard Full-Size ATX form factor.

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Chapter 2
Jumper setting & Connectors

2.1 Jumpers on the ATX-E15

The jumpers on the ATX-E15 allow you to configure your Single Board Computer card according to the needs of your applications.
If you have doubts about the best jumper configuration for your needs, contact your dealer or sales representative.
The following table lists the jumpers on ATX-E15 and their respective functions.

Jumper Locations on the ATX-E15

JP1: Clear CMOS RAM Data
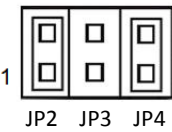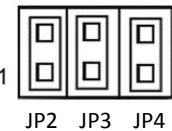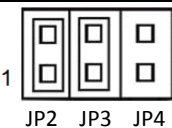
This 3-pin Jumper allows the user to disconnect the built-in 3V battery power to clear the information stored in the CMOS RAM.
To clear the CMOS data:
(1) Turn off the system power.
(2) Remove Jumper cap from pin1&2.
(3) Short the pin2 and pin3 for three seconds.
(4) Put Jumper cap back to pin1 & 2.
(5) Turn on your computer.
(6) Hold Down <Delete> during boot up and enter BIOS setup to enter your preferences.

Clear CMOS Content	Normal Operation (default)

JP2, JP3, JP4: Front Side Bus Selection

JP2 and JP3 and JP4 allow users to select the FSB speed. It can be 800 MHz, 1066 MHz or 1333Mhz. User should select the correct FSB speed to make their CPU run on correct speed and ensure the system runs stably.

JP2~JP4	Setting	Speed
JP2 JP3 JP4	JP2: Pin 1-2 short JP4: Pin 1-2 short	800Mhz FSB
JP2 JP3 JP4	JP2: Pin 1-2 short JP3: Pin 1-2 short JP4: Pin 1-2 short	1066Mhz FSB
JP2 JP3 JP4	JP2: Pin 1-2 short JP3: Pin 1-2 short	1333Mhz FSB
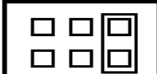
JP5: CF Card Mode Selection

This Jumper is to select the CF works as Secondary Channel Master device or Slave device.

Master	Slave
JP5	JP5

JP6: COM1 Power Selection

JP6 can be used to select the COM1 supply power: +5V, Ring-IN or +12V.

+5V	RI	+12V
1 ... 2	3 ... 4	5 ... 6

JP7: COM4 Power Selection

JP7 can be used to select the COM4 supply power: +5V or +12V.

+12V	+5V
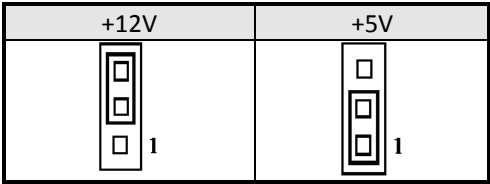
JP8: LAN1 Enable/Disable Selection

LAN1 can be disabled by shorting the JP8 jumper.

Disable	Enable
JP8	JP8
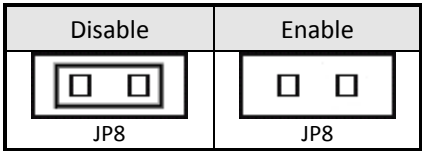
JP9: LAN2 Enable/Disable Selection

LAN2 can be disabled by shorting the JP9 jumper.

Disable	Enable
JP9	JP9
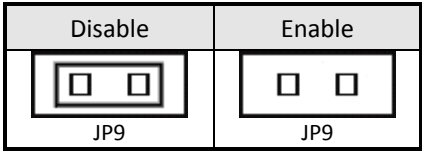
AT_MODE1: Power Supply Mode Selection

AT mode	ATX mode
AT_MODE1	AT_MODE1
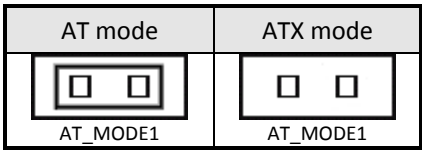
2.2 Connectors on the ATX-E15

The connectors on the ATX-E15 allow you to connect external devices such as keyboard, floppy disk drives, hard disk drives, printers and etc. The following table lists the connectors on ATX-E15

Connector Locations on the ATX-E15
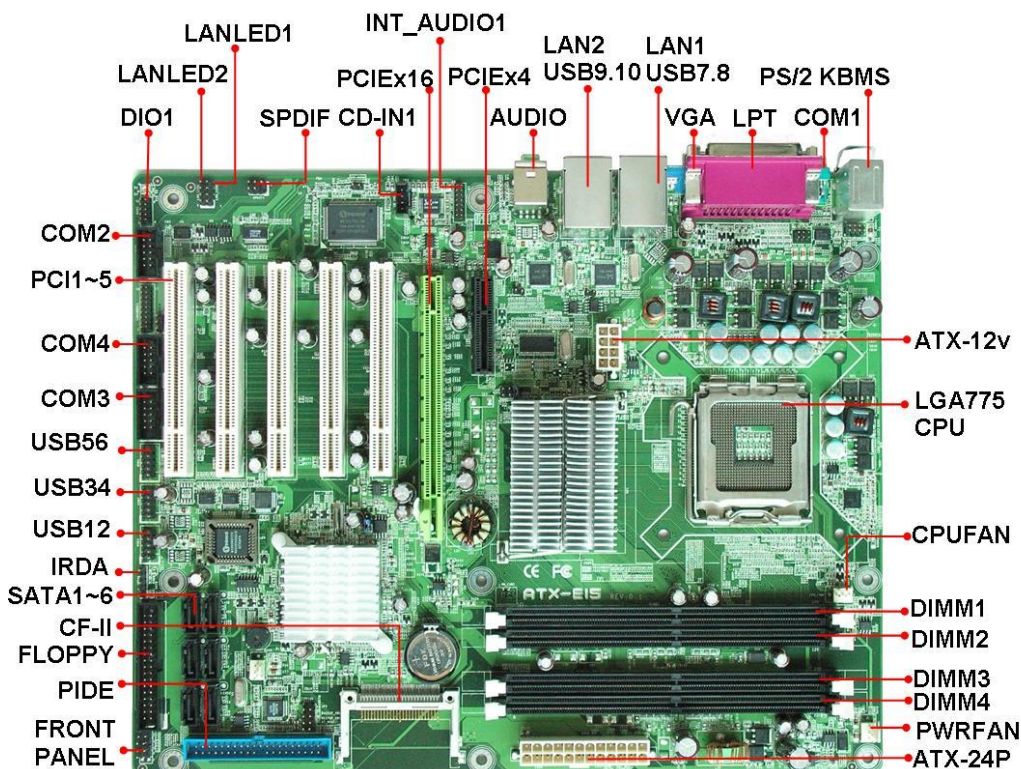
DIO1 Connector

DIO1 ports support 8 digital I/O bits. Each bit can be configured as Input or output individually. All bits are 5V tolerant.
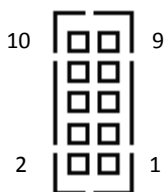
Signal Name	Pin #	Pin #	Signal Name
GND	1	2	+5V
DIO_0	3	4	DIO_4
DIO_1	5	6	DIO_5
DIO_2	7	8	DIO_6
DIO_3	9	10	DIO_7

USB12, USB34, USB56 Connectors

The following table shows the pin outs of the USB12, USB34, USB56 connectors.
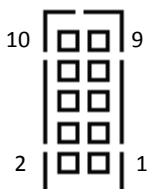
Signal Name	Pin #	Pin #	Signal Name
N.C.	1	2	VCC
GND	3	4	USB-
USB+	5	6	USB+
USB-	7	8	GND
VCC	9	10	N.C.

SATA1~6 Connectors
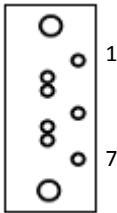
Pin #	Signal Name
1	GND
2	SATARX+
3	SATARX-
4	GND
5	SATATX-
6	SATATX+
7	GND

VGA Connector

The pin assignments of VGA CRT connector are as follows:
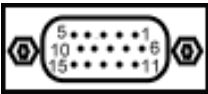
Signal Name	Pin #	Pin #	Signal Name
Red	1	2	Green
Blue	3	4	N.C.
GND	5	6	GND
GND	7	8	GND
N.C.	9	10	GND
N.C.	11	12	DDC_DATA
HSYNC	13	14	VSYNC
DDC_CLK	15		

LANRJ45+USBx2 Connectors

Below pictures show the location of LAN RJ45 ports and USB Type-A ports on the Combo RJ45+ USB connector.

LAN 1

USB 7

USB 8

LAN 2

USB 9

USB 10
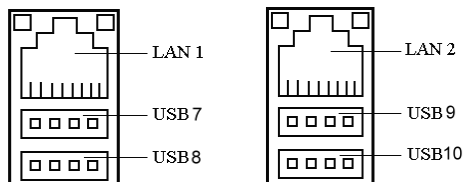
Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker and etc., Have a standard USB interface. Also make sure your OS supports USB controller.
If your OS does not support USB controller, please contact OS vendor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

LAN- RJ45 Connectors

This connector is for the 10/100/1000Mbps Ethernet capability. The figure below shows the pin out assignments of this connector and its corresponding input jack.

PIN1
PIN2
PIN3
PIN4
PIN5
PIN6
PIN7
PIN8
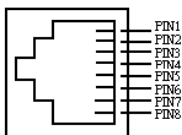
Pin #	Signal Name
1	MDI0+
2	MDI0-
3	MDI1+
4	MDI1-
5	MDI2+
6	MDI2-
7	MDI3+
8	MDI3-

LAN RJ45 LEDs

The LAN_LEDs on top of RJ45 are to display the current network connection status. The green color LED on the right-hand side shows the link status and TX/RX activity. The Orange/Green Dual color LED on the left-hand side indicates the operation mode, i.e. 10Base-T, 100Base-T or 1000Base-T.
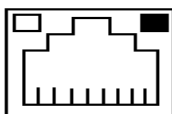
LNK/ACT	STATUS
GREEN	Link
OFF	Disconnected
FLASH	Packets TX/RX
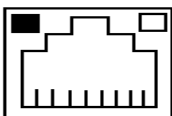
SPEED	MODE
ORANGE	1000 Mbps
GREEN	100 Mbps
OFF	10 Mbps

AUDIO Connector

After install onboard audio driver, you may connect speaker to Lin Out jack, microphone to MIC In jack. Audio sources devices like CD-ROM, walkman and etc can be connected to Lin-In jack.

Line In

Line Out

Mic In
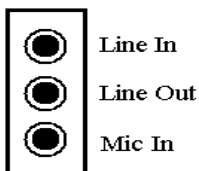
INT_AUDIO Connector
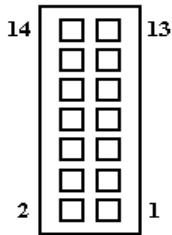
Pin #	Signal Name
1	LINE-IN-L
2	LINE-IN-R
3	GND
4	GND
5	LINEOUT-L
6	LINEOUT-R
7	GND
8	GND
9	MIC1-IN
10	MIC2-IN
11	CENTER OUT
12	LFE OUT
13	SURR OUTL
14	SURR OUTR

CD_IN Connector

CD_IN connector is designed for wire the CD_ROM audio signals to the on-board Audio CODEC.
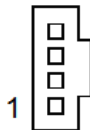
Pin #	Signal Name
1	CD_Left
2	CD_AGND
3	CD_AGND
4	CD_Right

ATX-24P Connector
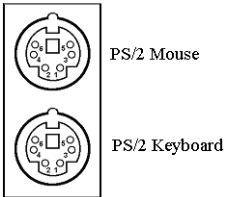
The ATX power connector supplies power to the whole Main board.
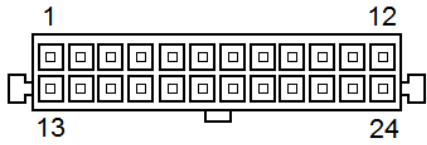
Pin #	Signal Name	Pin #	Signal Name
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	VCC	16	PS_ON-
5	GND	17	GND
6	VCC	18	GND
7	GND	19	GND
8	PWOK	20	-5V
9	5VSB	21	VCC
10	+12V	22	VCC
11	+12V	23	VCC
12	3.3V	24	GND

PS/2 Keyboard & Mouse Connector

The following table describes the pin assignment of PS/2 Keyboard and Mouse connector.

Pin #	Signal Name
1	Keyboard/Mouse data
2	NC
3	GND
4	5V
5	Keyboard/Mouse clock
6	GND

FRONT_PANEL Connector

The front panel of the case has a control panel, which provides light indication of the computer activities and switches to change the computer status.

```
1  □ □  PWRBTN1
3  □ □  HDDLED1
5  □ □  PWRLED1
7  □ □  RESET1
```
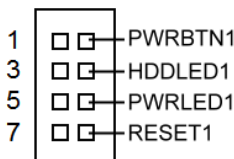
➢ **PWRBTN1 (ATX Power ON/OFF Button)**
This 2-pin connector acts as the "Power Supply On/Off Switch" on the ATX-E15 main board. When pressed, the switch will force the Main board to power on. When pressed again, it will force the main board to power off.

```
1  □ □  PWRBTN1
3  □ □  HDDLED1
5  □ □  PWRLED1
7  □ □  RESET1
```
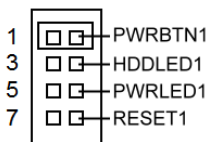
PWRBTN Pin #	Signal Name
1	5VSB
2	PWRBTN

➢ **HDDLED1 (IDE Hard Disk LED Connector)**
This connector connects to the hard drive activity LED on control panel. This LED will flash when the HDD is being accessed.

```
1  □ □  PWRBTN1
3  □ □  HDDLED1
5  □ □  PWRLED1
7  □ □  RESET1
```
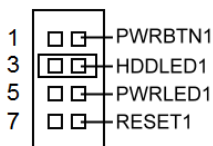
HDDLED Pin #	Signal Name
3	VCC
4	HDDLED

➢ **PWRLED1 (Power-On LED)**
This connector allows users to connect to Front Panel Power indicator.

```
1  □ □  PWRBTN1
3  □ □  HDDLED1
5  □ □  PWRLED1
7  □ □  RESET1
```
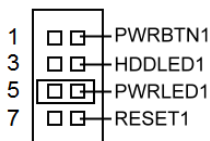
PWR LED Pin #	Signal Name
5	PWRLED
6	Ground

> ## RESET1
> The reset switch allows the user to reset the system without turning the main power switch off and then on. Orientation is not required when making a connection to this header.

1	□ □ — PWRBTN1
3	□ □ — HDDLED1
5	□ □ — PWRLED1
7	□ □ — RESET1
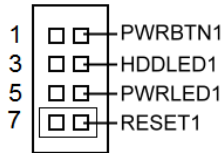
RESET1 Pin #	Signal Name
7	SYS_RST
8	Ground

System FAN Connector

This is a 3-pin header for the system fan.
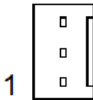
Pin #	Signal Name
1	Ground
2	+12V
3	SYSPWM

CPU FAN Connector

This is a 3-pin header for the CPU fan.

Pin #	Signal Name
1	Ground
2	+12V
3	CPUPWM

PWR FAN Connector

This is a 3-pin header for the PWR fan.
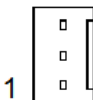
Pin #	Signal Name
1	Ground
2	+12V
3	PWRPWM

LPT Port

The LPT parallel port is a standard DSUB 25-pins Female connector . It can be configured as EPP or ECP or SPP mode.
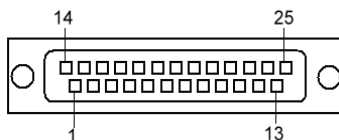
Signal Name	Pin #	Pin #	Signal Name
Strobe	1	2	DATA0
DATA1	3	4	DATA2
DATA3	5	6	DATA4
DATA5	7	8	DATA6
DATA7	9	10	/ACK
BUSY	11	12	PE
SLCT	13	14	/AUTOFD
/ERROR	15	16	/INIT
SELIN	17	18	GND
GND	19	20	GND
GND	21	22	GND
GND	23	24	GND
GND	25		

IrDA Connector

This connector is used for an IrDA connector for wireless communication.
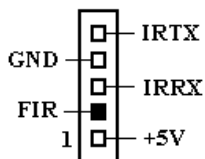
IrDA Pin #	Signal Name
1	+5V
2	FIR
3	Ir RX
4	Ground
5	Ir TX

CF-II Connector
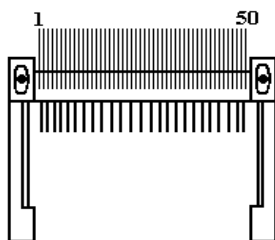
Signal Name	Pin #	Pin #	Signal Name
GND	1	2	PDD3
PDD4	3	4	PDD5
PDD6	5	6	PDD7
PCS1-	7	8	GND
GND	9	10	GND
GND	11	12	GND
VCC	13	14	GND
GND	15	16	GND
GND	17	18	PDA2
PDA1	19	20	PDA0
PDD0	21	22	PDD1
PDD2	23	24	N.C.
N.C.	25	26	N.C.
PDD11	27	28	PDD12
PDD13	29	30	PDD14
PDD15	31	32	PCS3-
N.C.	33	34	PDIOR-
PDIOW-	35	36	VCC
IRQ14	37	38	VCC
MST#_SLV	39	40	N.C.
PST1-	41	42	PIORDY
PDDREQ	43	44	PDDACK-
CF_LED-	45	46	N.C.
PDD8	47	48	PDD9
PDD10	49	50	GND

COM1 Serial Port

COM1, a 9-pin D-Sub male connector, is the onboard COM1 serial port of the E15. The following table shows its pin assignments.
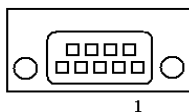
Pin #	Signal Name
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	+5V,Ring-IN or +12V

COM2 Serial Port

COM2, a 10-pins box-header connector, is the onboard COM2 serial port of the PISA-E3. The following table shows its pin assignments.
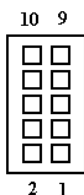
Pin #	RS232 Mode Signal Name	RS422/RS485 Mode Signal Name
1	DCD, Data carrier detect	TX- (422/485)
2	RXD, Receive data	TX+ (422/485)
3	TXD, Transmit data	RX+ (422)
4	DTR, Data terminal ready	RX- (422)
5	GND, ground	GND
6	DSR, Data set ready	N.C.
7	RTS, Request to send	N.C.
8	CTS, Clear to send	N.C.
9	+5V,Ring-IN or +12V	N.C.
10	N.C.	N.C.

COM3 Serial Port

COM3, a 10-pins header connector, is the onboard COM3 serial port of the E15. The following table shows its pin assignments.
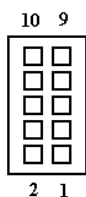
Pin #	RS232 Mode Signal Name
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	Ring-IN
10	N.C.

COM4 Serial Port

COM4, a 10-pins header connector, is the onboard COM4 serial port of the E15. The following table shows its pin assignments.
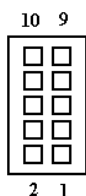
Pin #	RS232 Mode Signal Name
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	+5V,Ring-IN or +12V
10	N.C.

PIDE Connector

```
39                              1
┌─────────────────────────────────────┐
│ □□□□□□□□□□□□□□□□□□□ □□ │
│ □□□□□□□□□□  □□□□□□□ □□ │
└─────────────────────────────────────┘
40                              2
```
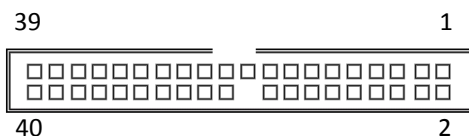
Signal Name	Pin #	Pin #	Signal Name
Reset IDE	1	2	Ground
Host data 7	3	4	Host data 8
Host data 6	5	6	Host data 9
Host data 5	7	8	Host data 10
Host data 4	9	10	Host data 11
Host data 3	11	12	Host data 12
Host data 2	13	14	Host data 13
Host data 1	15	16	Host data 14
Host data 0	17	18	Host data 15
Ground	19	20	Key
DRQ	21	22	Ground
Host IOW	23	24	Ground
Host IOR	25	26	Ground
IOCHRDY	27	28	Host PU 0
DACK	29	30	Ground
IRQ14	31	32	No connect
Address 1	33	34	P66DET
Address 0	35	36	Address 2
Chip select 1	37	38	Chip select 3
Activity	39		

LAN_LED1 Connector

The 4-pins LAN_LED1 connector designed for LAN1 port is for applications need to display LAN1 port status on front panel or the places administrators are easy to access.
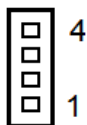
Pin #	Signal Name
1	1_ACTLED
2	1_PULUP
3	1_LINK1000
4	1_LINK100

LAN_LED2 Connector

The 4-pins LAN_LED2 connector designed for LAN2 port is for applications need to display LAN2 port status on front panel or the places administrators are easy to access.
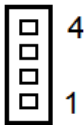
Pin #	Signal Name
1	2_ACTLED
2	2_PULUP
3	2_LINK1000
4	2_LINK100

SPDIF Connector

SPDIF connector is for S/PDIF audio module that allows digital instead of analog sound input or output.
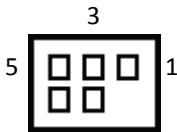
Signal Name	Pin	Pin	Signal Name
VCC	1	2	NC
SPDIFO	3	4	SPDIFI
GND	5	6	GND

ATX_12V Power Connector

The ATX_12V power connector mainly supplies power to the CPU.
Caution!
If the ATX_12V power connector is not connected, the system will not start.

ATX_12V
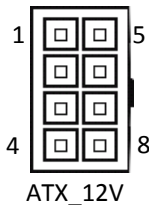
Pin #	Signal Name
1	GND
2	GND
3	GND
4	GND
5	+12V
6	+12V
7	+12V
8	+12V

Floppy Drive Connector

Floppy connector is a 34-pin header and will support up to 2.88MB floppy drives.
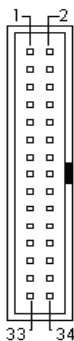
Signal Name	Pin #	Pin #	Signal Name
Ground	1	2	RM/LC
Ground	3	4	No connect
Ground	5	6	No connect
Ground	7	8	Index
Ground	9	10	Motor enable 0
Ground	11	12	Drive select 1
Ground	13	14	Drive select 0
Ground	15	16	Motor enable 1
Ground	17	18	Direction
Ground	19	20	Step
Ground	21	22	Write data
Ground	23	24	Write gate
Ground	25	26	Track 00
Ground	27	28	Write protect
Ground	29	30	Read data
Ground	31	32	Side 1 select
Ground	33	34	Diskette change

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Chapter 3 BIOS Setup

This chapter describes the different settings available in the Award BIOS that comes with the ATX-E15 CPU card. The topics covered in this chapter are as follows:

BIOS Introduction

This manual describes AMI's Setup program, which is built into the ROM BIOS. The Setup program allows users to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

Starting Setup

The following pages are meant to give you a better insight into the options you have to setup your system. Many options depend on the choice of type of memory, memory speed, peripherals and the programs that you will be running. The effective of these settings are related to system performance that can destabilize operation. We urge you to proceed with caution.

When the system is powered on, use the bios set program when you start up your system, reconfiguring your system, or press "Delete" promptly to run setup. This section will explain how to configure your system using this utility. And this change will be recognized and record them in the CMOS RAM of the SPI chip.

When you start up the computer, the system provides you the opportunity to set the program. Press the "del" during the P.O.S.T (Power-on Self-Test) to enter the program setting. And the POST will continue with the test routines. And the firmware chip will store the setup utility on the board. However, if you want to enter the setup after the POST, you can press Ctrl + Alt + Del simultaneously or turn off the power then back on.

3.1 Main Menu

Phoenix-AwardBIOS CMOS Setup Utility	
►Standard CMOS Features	Load Fail-Safe Defaults
►Advanced BIOS Features	Load Optimized Defaults
►Advance Chipset Features	Set Supervisor Password
►Integrated Peripherals	Set User Password
►Power Management Setup	Save & Exit Setup
►PnP/PCI Configurations	Exit Without Saving
►PC Health Status	
Esc :Quit ↑ ↓ ← → ：Select Item F10:Save & Exit Setup	
Load Optimized Defaults	

(Figure 1)
Note that a brief description of each highlighted selection appears at the bottom of the screen.

Setup Items

The main menu includes the following main setup categories.

➤Standard CMOS Features

Use this menu for basic system configuration.

➤ Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

➤ Advance Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

➢ Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

➢ Power Management Setup

Use this menu to specify your settings for power management.

➢ PnP/PCI Configurations

Use this menu to set up the PnP/PCI configuration.

➢ PC Health Status

Use this menu to display the CPU temperature, FAN speed and voltages.

➢ Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

➢ Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

➢ Set Supervisor/ User Password

Use this menu to set User and Supervisor Passwords.

➢ Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

➢ Exit Without Saving

Abandon all CMOS value changes and exit setup.

3.2 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <Pg Dn> keys to select the value you want in each item.

Phoenix-Award BIOS CMOS Setup Utility		
Standard CMOS Features		
Date (mm :dd: yy)	Mon, Apr 28 2008	Item Help
Time (hh: mm: ss)	15 : 35 : 35	
		Menu Level ►
►IDE Channel 0 Master	[None]	
►IDE Channel 0 Slave	[None]	Change the day,
►IDE Channel 1 Master	[None]	month, year, and
►IDE Channel 1 Slave	[None]	century
►IDE Channel 2 Master	[None]	
►IDE Channel 3 Master	[None]	
Drive A	[1.44 M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All , But Disk/Key]	
Base Memory	639K	
Extend Memory	1037312K	
Total Memory	1038336K	
↑ ↓ ← → ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit		
F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

(Figure 2)

This table shows the selections that you can make on the Standard CMOS Menu.

Item	Options	Description
Date	Month DD YYYY	Set the system date. Note that the 'Day' automatically changes when you set the date
Time	HH : MM : SS	Set the system time
IDE Channel 0 Master	Options are in its sub menu	Press <Enter> to enter the sub menu of detailed options
IDE Channel 0 Slave	Options are in its sub menu	Press <Enter> to enter the sub menu of detailed options
IDE Channel 1 Master	Options are in its sub menu	Press <Enter> to enter the sub menu of detailed options
IDE Channel 1 Slave	Options are in its sub menu	Press <Enter> to enter the sub menu of detailed options
IDE Channel 2 Master	Options are in its sub menu	Press <Enter> to enter the sub menu of detailed options
IDE Channel 3 Master	Options are in its sub menu	Press <Enter> to enter the sub menu of detailed options
Drive A Drive B	None 360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in	Select the type of floppy disk drive installed in your system
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/Key	Select the situation in which you want the BIOS to stop the POST process and notify you
Base Memory	N/A	Displays the amount of conventional memory detected during boot up
Extended Memory	N/A	Displays the amount of extended memory detected during boot up
Total Memory	N/A	Displays the total memory available in the system

➢IDE Channel 0, 1 Master/ Slave

The IDE adapters control the hard disk drive. Use a separate sub menu to configure each hard disk drive. Figure 3 shows the IDE Channel 0 / Channel 1 master sub menu.

Phoenix-Award BIOS CMOS Setup Utility		
IDE Channel 0 Master		
IDE HDD Auto-Detection	[Press Enter]	Item Help
IDE Channel 0 Master	[Auto]	Menu Level ▶
Access Mode	[Auto]	
Capacity	0 MB	To auto-detect the HDD's size, head…on this channel
Cylinder	0	
Head	0	
Precomp	0	
Landing Zone	0	
Sector	0	
↑ ↓ ← → ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help		
F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

(Figure 3)

➤IDE Channel 2, 3 Master

Figure 4 shows the IDE Channel 2 / Channel 3 master sub menu.

```
Phoenix-Award BIOS CMOS Setup Utility
                 IDE Channel 2 Master
IDE HDD Auto-Detection      [Press Enter]     Item Help

Extended IDE Drive            [Auto]          Menu Level ►
Access Mode
                   Extended IDE Drive                    tect the HDD's
                                                         .on this
Capacity
                   None   ….[    ]
                   Auto   …..[    ]
Cylinder
Head                ↑ ↓ ←→ ：Move Enter: Accept  Esc: Abort
Precomp
Landing Zone
Sector                      0

↑ ↓ ←→ ：Move   Enter: Select   +/-/PU/PD: Value   F10:Save  Esc: Exit  F1:General Help
F5:Previous Value        F6:Fail-Safe Defaults          F7:Optimized Default
```

(Figure 4)

Extended IDE Drive

The choice: None, Auto **(default)**

Use the legend keys to navigate through this menu and exit to the main menu. Use the Table listed below to configure the hard disk**.**

Item	Options	Description
IDE HDD Auto-detection	Press Enter	Press Enter to auto-detect the HDD on this channel. If detection is successful, it fills the remaining fields on this menu.
IDE Channel 0 Master	None Auto Manual	Selecting 'manual' lets you set the remaining fields on this screen. Selects the type of fixed disk. "User Type" will let you select the number of cylinders, heads, etc. Note: PRECOMP=65535 means NONE!
Access Mode	CHS LBA Large Auto	Choose the access mode for this hard disk
Capacity	Auto Display your disk drive size	Disk drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk checking program.
The following options are selectable only if the 'IDE Channel 0 Master' item is set to 'Manual'		
Cylinder	Min = 0 Max = 65535	Set the number of cylinders for this hard disk.
Head	Min = 0 Max = 255	Set the number of read/write heads
Precomp	Min = 0 Max = 65535	**** Warning: Setting a value of 65535 means no hard disk
Landing zone	Min = 0 Max = 65535	****
Sector	Min = 0 Max = 255	Number of sectors per track

Drive A/B

These fields identify the types of floppy disk drive A or drive B that has been installed in the computer. The available specifications are:

None	360K	1.2M	720K	1.44M	2.88M
	5.25 in.	5.25 in.	3.5 in.	3.5 in.	3.5 in.
				(default)	

Video

This field selects the type of video display card installed in your system.

 You can choose the following video display cards:

EGA/VGA: For EGA, VGA, SEGA, SVGA or PGA monitor adapters.
          (default)
CGA 40: Power up in 40 column mode.
CGA 80: Power up in 80 column mode.
MONO: For Hercules or MDA adapters.

Halt On

This field determines whether the system will halt if an error is detected during power up.

All errors	Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted.
No errors	The system boot will not be halted for any error that may be detected.
All, But Keyboard	The system boot will not be halted for a keyboard error; it will stop for all other errors
All, But Diskette	The system boot will not be halted for a disk error; it will stop for all other errors.
All, But Disk/Key	The system boot will not be halted for a keyboard or disk error; it will stop for all others. **(default)**

3.3 Advanced BIOS Features

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

```
┌──────────────────────────────────────────────────────────────┐
│         Phoenix-Award BIOS CMOS Setup Utility                  │
│                Advanced BIOS Features                          │
├──────────────────────────────────────────┬───────────────────┤
│  ►CPU Features                [Press Enter]│ Item Help         │
│  ►Hard Disk Boot Priority     [Press Enter]│                   │
│    Virus  Warning             [Disabled]   │ Menu Level  ►     │
│    CPU L3  Cache              [Enabled]    │                   │
│    Quick  Power  On  Self  Test [Enabled]  │                   │
│    First  Boot  Device        [Hard Disk]  │                   │
│    Second  Boot  Device       [CDROM]      │                   │
│    Third  Boot  Device        [LS120]      │                   │
│    Boot  Other Device         [Enabled]    │                   │
│    Swap  Floppy Drive         [Disabled]   │                   │
│    Boot Up  Floppy  Seek      [Enabled]    │                   │
│    Boot UP  Num Lock  Status  [Off]        │                   │
│    Gate A20  Option           [Fast]       │                   │
│     Typematic Rate Setting    [Disabled]   │                   │
│  x Typematic Rate (Chars/Sec) 6            │                   │
│  x Typematic Delay (Msec)     250          │                   │
│    Security  Option           [Setup]      │                   │
│    APIC  Mode                 [Enabled]    │                   │
│    MPS  Version  Control For OS [1.4]      │                   │
│    OS Select For DRAM > 64MB  [Non-OS2]    │                   │
│    Report No FDD For WIN 95   [No]         │                   │
├──────────────────────────────────────────┴───────────────────┤
│ ↑ ↓ ←→  : Move   Enter: Select   +/-/PU/PD: Value   F10:Save  Esc: Exit │
│ F1:General Help F5:Previous Value   F6:Fail-Safe Defaults    F7:Optimized Default │
└────────────────────────────────────────────────────────────────┘
```

(Figure 5)

➢CPU Feature

<table>
<tr><td colspan="3">Phoenix-Award BIOS CMOS Setup Utility
CPU Feature</td></tr>
<tr><td>PPM Mode</td><td>[Native Mode]</td><td>Item Help</td></tr>
<tr><td>Limit CPUID Max Val</td><td>[Disabled]</td><td></td></tr>
<tr><td>C1E Function</td><td>[Auto]</td><td>Menu Level ▶</td></tr>
<tr><td>Execute Disabled Bit</td><td>[Enabled]</td><td></td></tr>
<tr><td>Virtualization Technology</td><td>[Enabled]</td><td></td></tr>
<tr><td>Core Multi-Processing</td><td>[Enabled]</td><td></td></tr>
<tr><td colspan="3">↑ ↓ ← → ：Move   Enter: Select   +/-/PU/PD: Value   F10:Save Esc: Exit
F1:General Help F5:Previous Value   F6:Fail-Safe Defaults   F7:Optimized Default</td></tr>
</table>

(Figure 6)

PPM Mode

The choice: Native Mode **(default)**, SMM Mode.

Limit CPUID Max Val

The choice: Enabled, Disabled **(default)**.

C1E Function

The choice: Auto **(default)**, Disabled.

Execute Disabled Bit

The choice: Enabled, Disabled **(default)**.

Virtualization Technology

The choice: Enabled **(default)**, Disabled.

Core Multi-Processing

The choice: Enabled **(default)**, Disabled.

➤Hard Disk Boot Priority

Phoenix-Award BIOS CMOS Setup Utility Hard Disk Boot Priority	
1.Bootable Add-in Cards	Item Help
	Menu Level ▶ Use <↑> or <↓> to select a device, then press <+> to move it up, or <-> to move it down the list. Press <ESC> to exit this menu.
↑ ↓ ← → ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default	
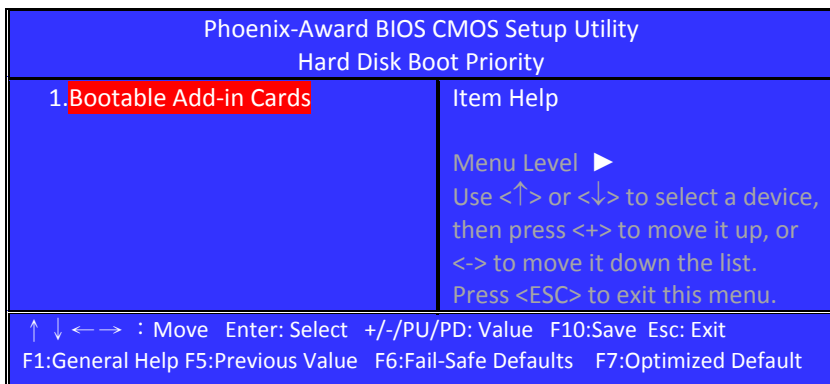
(Figure 7)

Bootable Add-in Cards

This is for setting the priority of the hard disk boot order when the "Hard Disk" option is selected in the "[First/Second/Third] Boot Device "menu item.

Virus Warning

Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection.

If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

Enabled	Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.
Disabled	No warning message will appear when anything attempts to access the boot sector or hard disk partition table. **(default)**

CPU L3 Cache

This field is used to enable or disable the CPU's L3 cache.
The choice: Enabled **(default)**, Disabled.

Quick Power On Self Test

Allows the system to skip certain tests while booting.
This will decrease the time needed to boot the system.

Enabled	Enable quick POST**(default)**
Disabled	Normal POST

First/Second/Third Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.
The Choice: Floppy, LS120, Hard-Disk, ZIP100, CDROM, Disabled, USB-FDD, USB-ZIP, USB-CDROM, Legacy LAN.

Item	Default
First Boot Device	Hard-Disk
Second Boot Device	CDROM
Third Boot Device	LS120

Boot Other Device

When enabled, BIOS will try to load the operating system from other device when it failed to load from the three devices above.
The choice: Enabled **(default)**, Disabled.

Swap Floppy Drive

If the system has two floppy drives, choose "Enabled" to assign physical drive B to logical drive A and vice-versa.
The choice: Enabled, Disabled **(default)**.

Boot Up Floppy Seek

Selection of the command 'Disabled' will speed the boot up.
Selection of 'Enabled' Searches disk drives during boot up.
The choice: Enabled **(default)**, Disabled

Boot Up Num Lock Status

Selects power on state for Num Lock.
The choice: On, Off **(default)**.

Gate A20 Option

The choice:
Normal: A pin in the keyboard controller controls GateA20.
Fast **(default)**: Lets chipset control GateA20.

Typematic Rate Setting

Keystrokes repeat at a rate determined by the keyboard controller.
When enabled, the typematic rate and typematic delay can be selected.
The choice: Enabled, Disabled **(default)**.

If Typematic Rate Setting is [Enabled], can choice Rate and Delay:

Typematic Rate (Chars/Sec)

Sets the number of times a second to repeat a keystroke when you hold the key down.
The choice: 6 **(default)**, 8, 10, 12, 15, 20, 24, 30.

```
┌─────────────────────────────────────┐
│  Typematic Rate (Chars/Sec)         │
├─────────────────────────────────────┤
│  6         ….. [ ▌ ]                │
│  8         ….. [   ]                │
│  10        ….. [   ]                │
│  12        ….. [   ]                │
│  15        ….. [   ]                │
│  20        ….. [   ]                │
│  24        ….. [   ]                │
│  30        ….. [   ]                │
├─────────────────────────────────────┤
│  ↑↓: Move Enter: Accept  ESC:Abort  │
└─────────────────────────────────────┘
```

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.
The choice: 250 **(default)**, 500, 750, and 1000.

```
┌─────────────────────────────────────┐
│  Typematic Delay (Msec)             │
├─────────────────────────────────────┤
│  250        ….. [ ▌ ]               │
│  500        ….. [   ]               │
│  750        ….. [   ]               │
│  1000       ….. [   ]               │
├─────────────────────────────────────┤
│  ↑↓: Move Enter: Accept  ESC:Abort  │
└─────────────────────────────────────┘
```

Security Option

Select whether the password is required every time the system boots or only when you enter setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt. **(default)**

Note: To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

APIC Mode

This setting allows to enable the APIC mode.
The choice: Enabled **(default)**, Disabled.

MPS Version Control For OS

The BIOS supports version 1.1 and 1.4 of the Intel multiprocessor specification.
Select version supported by the operation system running on this computer.
The choice: 1.1, 1.4 **(default)**.

OS Select For DRAM > 64MB

Select OS2 only if you are running OS/2 operating system with greater than 64MB of RAM on the system.
The choice: Non-OS2 **(default)**, OS2.

Report No FDD For WIN 95

The choice: No **(default)**, Yes.

3.4 Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

Phoenix-Award BIOS CMOS Setup Utility		
Advanced Chipset Features		
DRAM Timing Selectable	[By SPD]	Item Help
x CAS Latency Time	[Auto]	
x Dram RAS# to CAS# Delay	[Auto]	Menu Level ▶
x DRAM RAS# Precharge	[Auto]	
x Precharge dealy (tRAS)	[Auto]	
x System Memory Frequency	[Auto]	
System BIOS Cacheable	[Enabled]	
Memory Hole At 15M-16M	[Disabled]	
▶PCI Express Root Port Func	[Press Enter]	
VGA Setting		
PEG/Onchip VGA Control	[Auto]	
On-Chip Frame Buffer Size	[8MB]	
DVMT Mode	[DVMT]	
DVMT / FIXED Memory Size	[128MB]	
↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

(Figure 8)

DRAM Timing Selectable

The choice: Manual, By SPD **(default)**.

If DRAM Timing Selectable is [Manual], can choice these Items:

►CAS Latency Time
►Dram RAS# to CAS# Delay
►DRAM RAS# Precharge
►Precharge dealy (tRAS)
►System Memory Frequency

CAS Latency Time

This controls the latency between DDR RAM read command and the time that the data actually becomes available.
Leave this on the default setting.
The choice: 5, 4, 3, 6, Auto **(default)**.

DRAM RAS# to CAS# Delay

In order to improve performance, certain space in memory is reserved for PISA cards.
This memory must be mapped into the memory space below 16MB.
The choice: 2, 3, 4, 5, 6, Auto **(default)**.

DRAM RAS# Precharge

This controls the idle clocks after issuing a precharge command to DRAM.
Leave this on the default setting.
The choice: Auto **(default)**, 2, 3,4,5,6.

Precharge dealy (tRAS)

The choice: Auto **(default)**, 4,5,6,7,8,9,10,11,12,13,14,15.

System Memory Frequency

The choice: Auto **(default)**, 533MHz, 667MHz

System BIOS Cacheable

The choice: Enabled **(default)**, Disabled

Memory Hole At 15M-16M

Enabling this feature reserves 15 MB to 16 MB memory address space for ISA expansion cards that specifically require this setting. This makes memory from 15 MB and up unavailable to the system. Expansion cards can only access memory up to 16 MB.
The choice: Enabled, Disabled **(default)**

➢PCI Express Root Port Func

The choice: [Press Enter].

Phoenix-Award BIOS CMOS Setup Utility		
PCI Express Root Port Func		
		Item Help
PCI Express Port 1	[Auto]	
PCI Express Port 2	[Auto]	Menu Level ▶
PCI Express Port 3	[Auto]	
PCI Express Port 4	[Auto]	
PCI Express Port 5	[Auto]	
PCI-E Compliancy Mode	[v1.0a]	
↑ ↓ ← → ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

PCI Express Port 1, 2, 3, 4, 5

The choice: Auto **(default)**, Enabled, Disabled.

PCI-E Compliancy Mode

The choice: v1.0a (**default)**, v1.0.

PEG/Onchip VGA Control

The choice: Onchip VGA, PEG Port, Auto **(default)**.

On-Chip Frame Buffer Size

User can select frame buffer size.
The choice: 1MB, 8MB **(default)**.

DVMT Mode

This field shows the current DVMT mode.
The choice: FIXED, DVMT **(default)**, BOTH.

DVMT / FIXED Memory Size

This field is used to select the graphics memory size used by DVMT/ Fixed mode.
The choice: 64MB, 128MB **(default)**, 224MB.

3.5 Integrated Peripherals

Phoenix-Award BIOS CMOS Setup Utility Integrated Peripherals		
► On Chip IDE Device	[Press Enter]	Item Help
► Super IO Device	[Press Enter]	
Onboard Serial Port 3	[3E8]	Menu Level ►
Serial Port 3 Use IRQ	[IRQ3]	
Onboard Serial Port 4	[2E8]	
Serial Port 4 Use IRQ	[IRQ4]	
Watch Dog Timer Select	[Disabled]	
►USB Device Setting	[Press Enter]	
↑ ↓ ←→ ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

➢**On Chip IDE Device**

Phoenix-Award BIOS CMOS Setup Utility On Chip IDE Device		
IDE HDD Block Mode	[Enabled]	Item Help
IDE DMA transfer access	[Enabled]	
IDE Primary Master PIO	[Auto]	Menu Level ►
IDE Primary Slave PIO	[Auto]	If your IDE hard
IDE Primary Master UDMA	[Auto]	drive suppers
IDE Primary Slave UDMA	[Auto]	block mode
On-Chip Secondary PCI IDE	[Enabled]	select Enabled
IDE Secondary Master PIO	[Auto]	for automatic
IDE Secondary Slave PIO	[Auto]	detection of the
IDE Secondary Master UDMA	[Auto]	optimal number
IDE Secondary Slave UDMA	[Auto]	of lock
SATA Mode	[IDE]	read/writes per
LEGACY Mode Support	[Disabled]	sector the drive
		can support
↑ ↓ ←→ ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sectors read / write.
 If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read /write per sector where the drive can support.
The choice: Enabled **(default)**, Disabled.

IDE DMA transfer access

The choice: Enabled **(default)**, Disabled.

IDE Primary/Secondary, Master/Slave   PIO

The choice: Auto **(default)**, Mode0, Mode1, Mode2, Mode3, Mode4.

⚠️ Caution: Do not use the wrong setting or you will have drive errors.

PIO means Programmed Input/output.
Rather than have the BIOS issue a series of commands to effect a transfer to or from the disk drive, PIO allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by themselves.
Your system supports five modes, 0 (default) to 4, which primarily differ in timing.
When Auto is selected, the BIOS will select the best available mode after checking your drive.

Auto	The BIOS will automatically set the system according to your hard disk drive's timing **(default)**.
Mode 0-4	You can select a mode that matches your hard disk drive's timing.

IDE Primary/Secondary, Master/ Slave UDMA

The choice: Disabled,   Auto **(default).**

On-Chip Secondary PCI IDE

These fields allow you to enable or disable the primary and secondary IDE controller.
Select disabled if you want to add a different hard drive controller.
The choice: Enabled **(default)**, Disabled.

SATA Mode

Controls the SATA controller's operating mode.
The choice: IDE **(default)**, RAID, AHCI.

LEGACY Mode Support

The choice: Enabled, Disabled **(default)**.

➢**Super IO Device**

Phoenix-Award BIOS CMOS Setup Utility		
Super IO Device		
Onboard FDC Controller	[Enabled]	Item Help
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	Menu Level ▶
UART Mode Select	[Normal]	
x RxD , TxD Active	Hi, Lo	
x IR Transmission Delay	Enabled	
x UR2 Duplex Mode	Half	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
x EPP Mode Select	EPP1.7	
x ECP Mode Use DMA	3	
PWRON After PWR-Fail	[Off]	
↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit		
F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

Onboard FDC Controller

The choice: Enabled **(default)**, Disabled.

Onboard Serial Port 1

Select an address and corresponding interrupt for the first serial ports.
The choice: Disable, 3F8/IRQ4 **(default)**, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto.

Onboard Serial Port 2

Select an address and corresponding interrupt for the second serial ports.
The choice: Disable, 3F8/IRQ4, 2F8/IRQ3 **(default)**, 3E8/IRQ4, 2E8/IRQ3, Auto.

UART Mode Select

This item allows you to select which mode for the Onboard Serial Port 2.
The choice: IrDA, ASKIR, Normal **(default).**
If UART Mode Select is IrDA and ASKIR will show:

Phoenix-Award BIOS CMOS Setup Utility Super IO Device		
Onboard FDC Controller	[Enabled]	Item Help
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	Menu Level ▶
UART Mode Select	[IrDA]	
RxD , TxD Active	[Hi, Lo]	
IR Transmission Delay	[Enabled]	
UR2 Duplex Mode	[Half]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
x EPP Mode Select	EPP1.7	
x ECP Mode Use DMA	3	
PWRON After PWR-Fail	[Off]	
↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

RxD,   TxD Active

The choice:

UART Mode Select
Hi, Hi   ……[   ]
Hi, Lo   ……[   ]
Lo, Hi   …..[   ]
Lo, Lo   …..[   ]
↑↓: Move Enter: Accept ESC: Abort

IR Transmission Delay

The choice: Disabled, Enabled **(default)**.

UR2 Duplex Mode

The choice: Full, Half **(default)**.

Onboard Parallel Port

This item allows you to determine onboard parallel port controller I/O address setting.
The choice: 378/IRQ7 **(default)**, 278/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode

The choice: SPP **(default)**, EPP, ECP, ECP+EPP, Normal.

SPP	Sets the parallel port to function as a Standard Parallel Port. This is the default (and slowest) option.
EPP	Sets the parallel port to Enhanced Parallel Port mode. Sometimes also called "Bi-directional"
ECP	Sets the parallel port up as an Enhanced Capabilities Port. This setting requires the use of a DMA channel

If Parallel Port Mode Select is [SPP] and [Normal] will show:

Phoenix-Award BIOS CMOS Setup Utility		
Super IO Device		
Onboard Serial Port 1	[3F8/IRQ4]	Item Help
Onboard Serial Port 2	[2F8/IRQ3]	
UART Mode Select	[IrDA]	Menu Level ▶
RxD , TxD Active	[Hi, Lo]	
IR Transmission Delay	[Enabled]	
UR2 Duplex Mode	[Half]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
x EPP Mode Select	EPP1.7	
x ECP Mode Use DMA	3	
PWRON After PWR-Fail	[Off]	
↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit		
F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

If Parallel Port Mode Select is [EPP] will show:

```
        Phoenix-Award BIOS CMOS Setup Utility
                    Super IO  Device
        Onboard  Serial Port 1      [3F8/IRQ4]    Item Help
        Onboard  Serial Port 2      [2F8/IRQ3]
        UART   Mode Select          [IrDA]        Menu Level ▶
        RxD  ,  TxD  Active          [Hi, Lo]
        IR Transmission Delay        [Enabled]
        UR2  Duplex  Mode            [Half]
        Onboard  Parallel  Port      [378/IRQ7]
        Parallel  Port Mode          [EPP]
        EPP Mode Select              [1.7]
    x  ECP Mode  Use DMA             3
        PWRON  After  PWR-Fail       [Off]
↑↓←→  ：Move   Enter: Select   +/-/PU/PD: Value   F10:Save  Esc: Exit
F1:General Help F5:Previous Value  F6:Fail-Safe Defaults   F7:Optimized Default
```

EPP Mode Select

Select EPP port type 1.7 or 1.9.
The choice: 1.7 **(default)**, 1.9.

If Parallel Port Mode Select is [ECP] will show:

```
        Phoenix-Award BIOS CMOS Setup Utility
                    Super IO  Device
        Onboard  Serial Port 1      [3F8/IRQ4]    Item Help
        Onboard  Serial Port 2      [2F8/IRQ3]
        UART   Mode Select          [IrDA]        Menu Level ▶
        RxD  ,  TxD  Active          [Hi, Lo]
        IR Transmission Delay        [Enabled]
        UR2  Duplex  Mode            [Half]
        Onboard  Parallel  Port      [378/IRQ7]
        Parallel  Port Mode          [ECP]
    x  EPP Mode Select               1.7
        ECP Mode  Use DMA            [3]
        PWRON  After  PWR-Fail       [Off]
↑↓←→  ：Move   Enter: Select   +/-/PU/PD: Value   F10:Save  Esc: Exit
F1:General Help F5:Previous Value  F6:Fail-Safe Defaults   F7:Optimized Default
```

ECP Mode Use DMA

If your system supports ECP parallel port mode and you have the port set to use ECP, you must use this setting to assign a DMA channel for use by the port.
The choice: DMA1, DMA3 **(default)**.

If Parallel Port Mode Select is [ECP+EPP] will show:

| Phoenix-Award BIOS CMOS Setup Utility |||
Super IO Device		
Onboard Serial Port 1 [3F8/IRQ4]		Item Help
Onboard Serial Port 2 [2F8/IRQ3]		
UART Mode Select [IrDA]		Menu Level ▶
RxD , TxD Active [Hi, Lo]		
IR Transmission Delay [Enabled]		
UR2 Duplex Mode [Half]		
Onboard Parallel Port [378/IRQ7]		
Parallel Port Mode [ECP+EPP]		
EPP Mode Select [1.7]		
ECP Mode Use DMA [3]		
PWRON After PWR-Fail [Off]		
↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit		
F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

EPP Mode Select

Select EPP port type 1.7 or 1.9.
The choice: 1.7 **(default)**, 1.9.

ECP Mode Use DMA

If your system supports ECP parallel port mode and you have the port set to use ECP, you must use this setting to assign a DMA channel for use by the port.
The choice: DMA1, DMA3 **(default)**.

PWRON After PWR-Fail

When power fails, you can select power ON or Off or Former status.
The choice: Off **(default)**, On, Former-Sts.

Onboard Serial Port 3

This is used to select an I/O address for the onboard serial port 3.
The choice: Disabled, 3F8, 2F8, 3E8 **(default)**, 2E8.

Serial Port 3 Use IRQ

This is used to select an IRQ for the onboard serial port 3.
The choice: IRQ3 **(default)**, IRQ4, IRQ5, IRQ7, IRQ10, IRQ11.

Onboard Serial Port 4

This is used to select an I/O address for the onboard serial port 4.
The choice: Disabled, 3F8, 2F8, 3E8, 2E8 **(default).**

Serial Port 4 Use IRQ

This is used to select an IRQ for the onboard serial port 4.
The choice: IRQ3, IRQ4 **(default)**, IRQ5, IRQ7, IRQ10, IRQ11.

Watch Dog Timer Select

The choice: Disabled **(default)**, Enable.

➤ USB Device Setting

Phoenix-Award BIOS CMOS Setup Utility		
USB Device Setting		
USB 1.0 Controller	[Enabled]	Item
USB 2.0 Controller	[Enabled]	Help
USB Operation Mode	[High Speed]	
USB Keyboard Function	[Enabled]	Menu
USB Mouse Function	[Enabled]	Level
USB Storage Function	[Enabled]	►
USB Mass Storage Device Boot Setting		
↑ ↓ ← → ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help		
F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

USB 1.0 Controller

This entry is for disable/enable USB1.0 controller only. The BIOS itself may/may not have high speed USB support.
If the BIOS has high speed USB support built in, the support will be automatically turn on when high speed device were attached.
The choice: Enabled **(default)**, Disabled.

USB 2.0 Controller

This entry is for disable/enable USB2.0 controller only. The BIOS itself may/may not have high speed USB support.
If the BIOS has high speed USB support built in, the support will be automatically turn on when high speed device were attached.
The choice: Enabled **(default)**, Disabled.

USB Operation Mode

The choice: Full/Low Speed, High Speed **(default)**.

USB Keyboard Function

The choice: Enabled **(default)**, Disabled.

USB Mouse Function

The choice: Enabled **(default)**, Disabled.

USB Storage Function

The choice: Enabled **(default)**, Disabled.

SanDisk Cruzer Crossfire0.

The choice: Auto **(default)**, FDD mode, HDD mode.

3.6 Power Management Setup

The Power Management Setup allows you to configure you system to most effectively save energy while operating in a manner consistent with your own style of computer use.

```
Phoenix-Award BIOS CMOS Setup Utility
Power Management Setup
```

		Item Help
ACPI Function	[Enabled]	
Power Management	[User Define]	Menu Level ▶
Video Off Method	[DPMS]	
Video Off In Suspend	[Yes]	
Suspend Type	[Stop Grant]	
MODEM Use IRQ	[3]	
Suspend Mode	[Disabled]	
HDD Power Down	[Disabled]	
Soft-Off by PWR-BTTN	[Instant-Off]	
CPU THRM-Throttling	[50.0%]	
Wake-Up by PCI card	[Enabled]	
Power On by Ring	[Enabled]	
Resume by Alarm	[Disabled]	
x Data(of Month)Alarm	0	
x Time(hh: mm: ss)Alarm	0 : 0 : 0	
Reload Global Timer Events		
Primary IDE 0	[Disabled]	
Primary IDE 1	[Disabled]	
Secondary IDE 0	[Disabled]	
Secondary IDE 1	[Disabled]	
FDD , COM , LPT Port	[Disabled]	
PCI PIRQ[A-D]#	[Disabled]	

↑ ↓ ←→ : Move   Enter: Select   +/-/PU/PD: Value   F10:Save Esc: Exit F1:General Help F5:Previous Value   F6:Fail-Safe Defaults   F7:Optimized Default

ACPI Function

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI).
The choice: Enabled **(default)**, Disabled.

Power Management

The choice: User Define **(default)**, Min Saving, Max Saving.

Max Saving	Maximum power savings. Only Available for SL CPUs. Inactivity period is 1 minute in each mode.
User Define	Set each mode individually. Select time-out periods in the section for each mode, below.
Min Saving	Minimum power savings. Inactivity period is 1 hour in each mode (except the hard drive).

Video off Method

This determines the manner in which the monitor is blanked.
This specifies the power saving state that the VGA video subsystem enters after the specified period of display inactivity has expired.
The choice: Blank Screen, V/H SYNC+ Blank, DPMS **(default).**

Blank Screen	The BIOS will only black the screen when the system gets into power management mode and writes blanks to the video buffer.
V/H SYNC + Blank	Writes blanks to the video buffer, and turns off the vertical and horizontal scanning.
DPMS	Allows the BIOS to control the video display card if it supports the DPMS feature **(default).**

Video Off   In Suspend

This field is used to activate the video off feature when the system enters the Suspend mode.
The choice: No, Yes **(default)**.

Suspend   Type

The choice: Stop Grant **(default)**,PwrOn Suspend.

MODEM   Use   IRQ

This field is used to set an IRQ channel for the modem installed in your system.
The choice: NA, 3 **(default)**, 4, 5, 7, 9, 10, 11.

Suspend Mode

This field specifies the length of time of system inactivity while in full power on state before the computer enters suspend mode and motivates the enable 'Wake up Events in Doze & Standby' / 'PM Events'.
The choice: 1Min, 2Min, 4Min, 8Min, 12Min, 20Min, 30Min, 40Min,1Hour, Disable **(default)**.

HDD Power Down

When enable and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.
The choice: 1Min, 2Min, 3Min, 4Min, 5Min, 6Min, 7Min, 8Min, 9Min, 10Min, 11Min, 12Min, 13Min, 14Min, 15Min, Disable **(default)**.

Soft-Off   by PWR-BTTN

This field defines the power off mode when using an ATX power supply.
The choice: Instant-Off, Delay 4 Sec.

Instant-Off	Press power button then Power off instantly .**(default)**
Delay 4 Sec	Press power button 4 sec. to Power off. Enter suspend if button is pressed less than 4 sec.

CPU THRM-Throttling

This field allows you to select the CPU THRM-Throttling rate.
The choice: 75.0%, 50.0% **(default)**, 25.0%.

Wake-Up by PCI card

Enable/Disable PCI PME wake up function.
The choice: Enabled **(default)**, Disabled.

Power On by Ring

Enable/Disable Power on by Ring function.
The choice: Enabled **(default)**, Disabled.

Resume by Alarm

You can set "Resume by Alarm" item to enabled and key in Date/time to power on system.
The choice: Enabled, Disabled **(default).**

If Resume by Alarm is [Enabled], can choice Date Alarm and Time Alarm:

Date (of Month) Alarm

Every day, 1~31.

```
Date(of Moth)Alarm

Min=  0
Max=  31

Key in a DEC number:

↑↓: Move Enter: Accept  ESC:Abort
```

Time (hh: mm: ss) Alarm

(0~23): (0~59): (0~59).

```
Time (hh: mm: ss) Alarm

Min=  0
Max=  23

Key in a DEC number:

↑↓: Move Enter: Accept  ESC:Abort
```

Primary/ Secondary IDE 0/1

When Enabled, the system will resume from suspend mode if Primary IDE 0 (1) or Secondary IDE 0 (1) is active.
The choice: Enabled, Disabled **(default).**

FDD, COM, LPT Port

When Enabled, the system will resume from suspend mode if FDD, COM port, or LPT port is active.
The choice: Enabled, Disabled **(default)**.

PCI PIRQ [A-D] #

When Enabled, the system will resume from suspend mode if interrupt occurs.
The choice: Enabled, Disabled **(default)**.

3.7 PnP/PCI Configuration

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

Phoenix-Award BIOS CMOS Setup Utility		
PnP/PCI Configuration		
Init Display First	[PCI Slot]	Item Help
Reset Configuration Data	[Disabled]	
		Menu Level ▶
Resources Controlled By	[Auto(ESCD)]	
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
INT Pin 1 Assignment	[Auto]	
INT Pin 2 Assignment	[Auto]	
INT Pin 3Assignment	[Auto]	
INT Pin 4 Assignment	[Auto]	
INT Pin 5 Assignment	[Auto]	
INT Pin 6 Assignment	[Auto]	
INT Pin 7 Assignment	[Auto]	
INT Pin 8 Assignment	[Auto]	
PCI Express relative items		
Maximum Payload Size	[128]	
↑ ↓ ← → ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help		
F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

Init Display First

This item allows you to choose which one to activate first, PCI Slot or onchip VGA.
The choice: PCI Slot **(default)**, Onboard, PCIEx.

Reset Configuration Data

Default is disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot.
The choice: Enabled, Disabled **(default)**.

Resources Controlled By

BIOS can automatically configure all the boot and Plug and Play compatible devices. If you choose Auto, you cannot select IRQ DMA and memory base address fields, since BIOS automatically assigns them.
The choice: Auto (ESCD) **(default)**, Manual.

If Resources Controlled By is [Manual], can choice IRQ Resource:

Phoenix-Award BIOS CMOS Setup Utility		
PnP/PCI Configuration		
Init Display First	[PCI Slot]	Item Help
Reset Configuration Data	[Disabled]	
		Menu Level ►
Resources Controlled By	[Manual]	
►IRQ Resources	[Press Enter]	
PCI/VGA Palette Snoop	[Disabled]	
INT Pin 1 Assignment	[Auto]	
INT Pin 2 Assignment	[Auto]	
INT Pin 3Assignment	[Auto]	
INT Pin 4 Assignment	[Auto]	
INT Pin 5 Assignment	[Auto]	
INT Pin 6 Assignment	[Auto]	
INT Pin 7 Assignment	[Auto]	
INT Pin 8 Assignment	[Auto]	
PCI Express relative items		
Maximum Payload Size	[128]	
↑ ↓ ← → ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help		
F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

➢IRQ Resource

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt. This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot.

Phoenix-Award BIOS CMOS Setup Utility		
IRQ Resource		
IRQ-3 assigned to [PCI Device]		Item Help
IRQ-4 assigned to [PCI Device]		
IRQ-5 assigned to [PCI Device]		Menu Level ▶
IRQ-7 assigned to [PCI Device]		Legacy ISA for
IRQ-9 assigned to [PCI Device]		devices compliant
IRQ-10 assigned to [PCI Device]		with the original PC
IRQ-11 assigned to [PCI Device]		AT bus specification,
IRQ-12 assigned to [PCI Device]		PCI/ISA PnP for
IRQ-14 assigned to [PCI Device]		devices compliant
IRQ-15 assigned to [PCI Device]		with the Plug and
		Play standard
		whether designed for
		PCI or ISA bus
		architecture
↑ ↓ ← → ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help		
F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

IRQ-3,4,5,7,9,10,11,12,14,15 assigned to

> **IRQ-3 assigned to**
>
> PCI Device   ….. [▌]
> Reserved   ….. [   ]
>
> ↑↓: Move Enter: Accept ESC:Abort

The choice: PCI Device, Reserved.

PCI/VGA Palette Snoop

This BIOS feature determines if your graphics card should allow VGA palette snooping by a fixed function display card.
The choice: Enabled, Disabled **(default).**

INT Pin 1/2/3/4/5/6/7/8 Assignment

The choice: Auto **(default)**,3,4,5,7,9,10,11,12,14,15.

Maximum Payload Size

The choice: 128 (**default)**, 256,512,1024,2048,4096.

3.8 PC Health Status

This section helps you to get more information about your system including CPU temperature, FAN speed and voltages. It is recommended that you contact with your motherboard supplier to get proper value about your setting of the CPU temperature.

Phoenix-Award BIOS CMOS Setup Utility PC Health Status		
CPU Warning Temperature	[Disabled]	Item Help
Current System Temp.	40°C / 107°F	
Current CPU Temp.	40°C / 100°F	Menu Level ▶
CPU FAN Speed	3308 RPM	
CHASSIS Fan Speed	0 RPM	
POWER Fan Speed	0 RPM	
Vcore	1.20V	
+1.5V	1.52V	
+3.3V	3.47V	
+5V	5.13V	
+12V	12.22V	
VBAT(V)	3.42V	
5VSB(V)	5.09V	
Shutdown Temperature	[Disabled]	
↑ ↓ ← → ：Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default		

CPU Warning Temperature

Select the CPU over-heated warning temperature.
The choice: Disabled **(default)**, 50°C/122°F, 53°C/127°F, 56°C/133°F, 60°C/140°F, 63°C/145°F, 66°C/151°F, 70°C/158°F.

Current System Temp

Show System Temperature.

Current CPU Temp

Shows Board Temperature.

CPU FAN Speed

Shows CPU Fan speed.

CHASSIS Fan Speed

Shows CHASSIS Fan speed.

POWER Fan Speed

Shows POWER Fan speed.

Shutdown Temperature

Select the CPU over-heated shutdown temperature.
The choice: Disabled **(default)**, 60°C/140°F, 65°C/149°F, 70°C/158°F, 75°C/167°F.

3. 9 Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Phoenix-Award BIOS CMOS Setup Utility	
►Stand CMOS Features	►Frequency/Voltage Control
►Advanced BIOS Features	Load Fail-Safe Default
►Advance Chipset Features	Load Optimized Default
►Integrated Peripherals	Set Supervisor Password
►Power Ma **Load Fial-Safe Defaults (Y/N)? N**	
►PnP/PCI C	
►PC Health Status	Exit Without Saving
Esc :Quit ↑ ↓ ←→ ：Select Item F10:Save & Exit Setup	
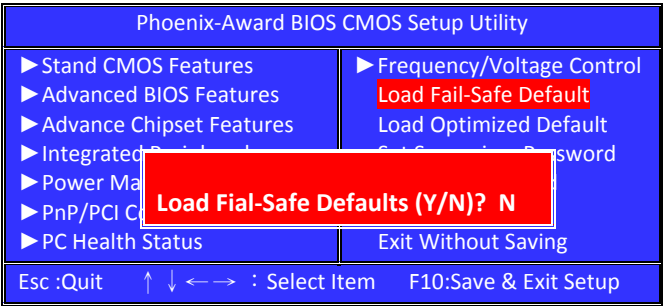
Pressing '**Y**' loads the BIOS default values for the most stable, minimal-performance system operations.

3.10 Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Phoenix-Award BIOS CMOS Setup Utility	
►Stand CMOS Features	►Frequency/Voltage Control
►Advanced BIOS Features	Load Fail-Safe Default
►Advance Chipset Features	Load Optimized Default
►Integrated Peripherals	Set Supervisor Password
►Power M	
►PnP/PCI **Load Optimized Defaults (Y/N)? N**	
►PC Health Status	Exit Without Saving
Esc :Quit ↑ ↓ ←→ ：Select Item F10:Save & Exit Setup	
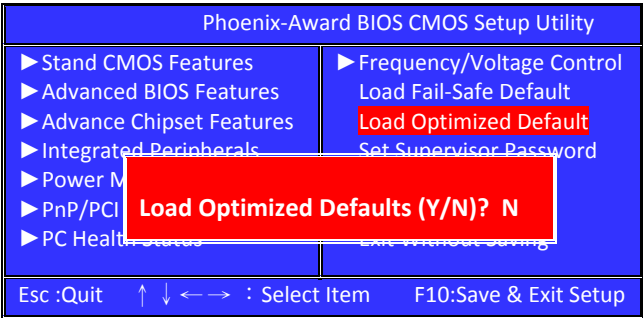
Pressing '**Y**' loads the default values that are factory settings for optimal performance system operations.

3.11 Set Supervisor/ User Password

You can set either supervisor or user password, or both of them. The differences between are:

Supervisor password: can enter and change the options of the setup menus.

User password: just can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Phoenix-Award BIOS CMOS Setup Utility	
►Stand CMOS Features	►Frequency/Voltage Control
►Advanced BIOS Features	Load Fail-Safe Default
►Advance Chipset Features	Load Optimized Default
►Integrated Peripherals	Set Supervisor Password
►Power Management	Set User Password
►PnP/PCI Configuration	Save & Exit Setup
►PC Health Stat **Enter Password:** ut Saving	
Esc :Quit ↑ ↓ ← → ：Select Item F10:Save & Exit Setup	

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

Phoenix-Award BIOS CMOS Setup Utility	
►Stand CMOS Features	►Frequency/Voltage Control
►Advanced BIOS Features	Load Fail-Safe Default
►Advance Chipset Features	Load Optimized Default
►Integrated Peripherals	Set Supervisor Password
►Power Management	Set User Password
►PnP/PCI Configuration	Save & Exit Setup
►PC Health **PASSWORD DISABLED!!!** ving	
Esc :Quit **Press any key to continue…** & Exit Setup	
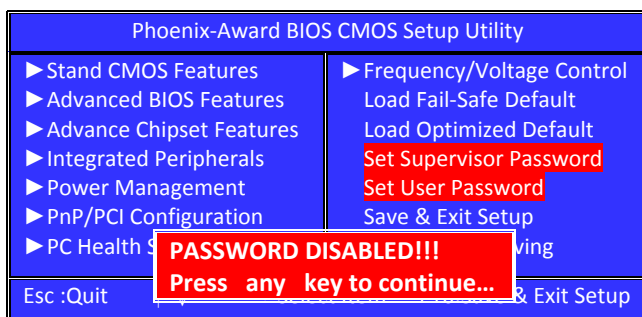
PASSWORD DISABLED:

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

3.12 Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

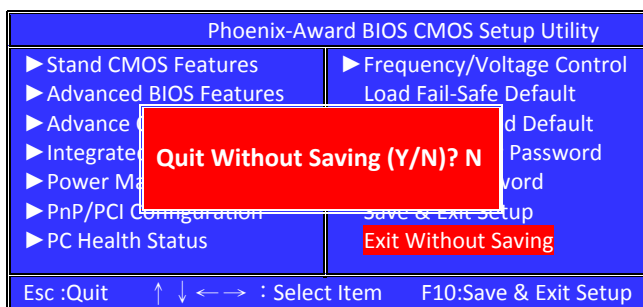| Phoenix-Award BIOS CMOS Setup Utility	
►Stand CMOS Features	►Frequency/Voltage Control
►Advanced BIOS Features	Load Fail-Safe Default
►Advanc...	...Default
►Integra... **SAVE to CMOS and EXIT (Y/N)? Y** ...assword	
►Power ...	...ord
►PnP/PCI Configuration	Save & Exit Setup
►PC Health Status	Exit Without Saving
Esc :Quit ↑ ↓ ← → : Select Item F10:Save & Exit Setup	
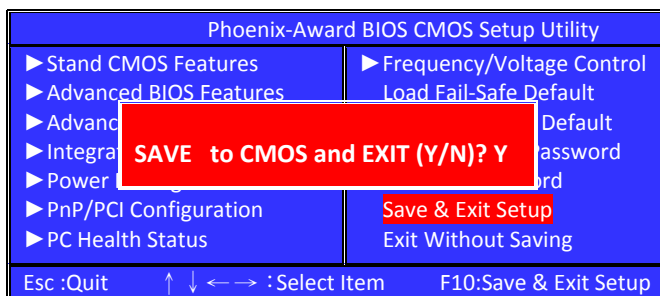
Pressing "**Y**" stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

3.13 Exit Without Saving

Pressing <Enter> on this item asks for confirmation:

Phoenix-Award BIOS CMOS Setup Utility	
►Stand CMOS Features	►Frequency/Voltage Control
►Advanced BIOS Features	Load Fail-Safe Default
►Advance ...	...d Default
►Integrated **Quit Without Saving (Y/N)? N** Password	
►Power Ma...	...word
►PnP/PCI Configuration	Save & Exit Setup
►PC Health Status	Exit Without Saving
Esc :Quit ↑ ↓ ← → : Select Item F10:Save & Exit Setup	

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.

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CHAPTER 4 Appendix

A. I/O Port Address Map

Each peripheral device in the system is assigned a set of I/O port addresses which also becomes the identity of the device. There is a total of 1K port address space available. The following table lists the I/O port addresses used on the Industrial CPU Card.

Address	Device Description
000h - 01Fh	DMA Controller #1
020h - 03Fh	Interrupt Controller #1
040h - 05Fh	Timer
060h - 06Fh	Keyboard Controller
070h - 07Fh	Real Time Clock, NMI
080h - 09Fh	DMA Page Register
0A0h - 0BFh	Interrupt Controller #2
0C0h - 0DFh	DMA Controller #2
0F0h	Clear Math Coprocessor Busy Signal
0F1h	Reset Math Coprocessor
1F0h - 1F7h	IDE Interface
278 - 27F	Parallel Port #2(LPT2)
2F8h - 2FFh	Serial Port #2(COM2)
2B0 - 2DF	Graphics adapter Controller
378h - 3FFh	Parallel Port #1(LPT1)
360 - 36F	Network Ports
3B0 - 3BF	Monochrome & Printer adapter
3C0 - 3CF	EGA adapter
3D0 - 3DF	CGA adapter
3F0h - 3F7h	Floppy Disk Controller
3F8h - 3FFh	Serial Port #1(COM1)

B. Interrupt Request Lines (IRQ)

There are a total of 15 IRQ lines available on the Industrial CPU Card. Peripheral devices use interrupt request lines to notify CPU for the service required. The following table shows the IRQ used by the devices on the Industrial CPU Card.

Level	Function
IRQ0	System Timer Output
IRQ1	Keyboard
IRQ2	Interrupt Cascade
IRQ3	Serial Port #2
IRQ4	Serial Port #1
IRQ5	Reserved
IRQ6	Floppy Disk Controller
IRQ7	Parallel Port #1
IRQ8	Real Time Clock
IRQ9	Software Redirected to Int0Ah
IRQ10	Reserved
IRQ11	Reserved
IRQ12	PS/2 Mouse
IRQ13	80287
IRQ14	Primary IDE
IRQ15	Secondary IDE

C. POST Beep

Currently there are two kinds of beep codes in BIOS. This code indicates that a **video error** has occurred and the BIOS cannot initialize the video screen to display any additional information. This beep code consists of a single long beep followed by two short beeps.

The other code indicates that your **DRAM error** has occurred. This beep code consists of a single long beep repeatedly.